

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Brown, *et al.*

(Division of Appl. No. 09/159,518)

Appl. No.: to be assigned

Filed: herewith

For: **Novel Opioid Peptides for the
Treatment of Pain**

Art Unit: 1631

Examiner: to be assigned

Attorney Docket: 81823/282437



Information Disclosure Statement

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

Submitted herewith is a listing of documents known to Applicants and/or their attorney in compliance with the requirements of 37 C.F.R. § 1.56. Copies of the listed documents are also enclosed.

In accordance with 37 C.F.R. § 1.98(a)(3), Applicants' undersigned attorney submits the following concise explanation of the relevance of the non-English language document cited on the accompanying form:

Reference A11. European patent document EP 176 070, discloses a number of pharmacologically active peptides and asserts that these peptides have opiate activity. An English language abstract of this document is cited on the accompanying list of references as reference A11.

present application. This statement should not be construed as a representation that more

material information does not exist or that an exhaustive search of the relevant art has been made.

Consideration of the cited documents and making the same of record in the prosecution of the above-captioned application are respectfully requested. It is believed that no fees are due for consideration of this Information Disclosure Statement. Any fees which may be due may be charged to our Deposit Account No. 03-3975.

Respectfully submitted,

PILLSBURY WINTHROP LLP

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Date: November 26, 2001

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LIST OF REFERENCES CITED BY APPLICANT <i>(Use several sheets if necessary)</i>	Atty. Docket No. 81823 282	Appl. No. to be assigned
	Applicant(s) Brown, <i>et al.</i>	
	Filing Date Herewith	Group

11046 U.S. PTO
 09/994078
 11/26/91

U.S. PATENT DOCUMENTS

Examiner Initial		Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate
	AA 1	4,254,024	Mar. 3, 1981	Stewart, <i>et al.</i>	260	112.5	Oct. 16, 1979
	AB 1	4,350,627	Sep. 21, 1982	de Castiglione, <i>et al.</i>	260	112.5	Dec. 3, 1980
	AC 1	5,312,899	May 17, 1994	Schiller	530	331	Jun. 30, 1989
	AD 1						

FOREIGN PATENT DOCUMENTS

		Document Number	Date	Country	Class	Subclass	Abstract	
							Yes	No
	AE 1	WO 94 11018	26 May 1994	WIPO	A61K	37 02		
	AF 1	WO 94 15959	21 July 1994	WIPO	C07K	5 10		
	AG 1	WO 95 22557	24 August 1995	WIPO	C07K	5 107		
	AH 1	EP 176 070	2 April 1986	Europe	C07K	5 10	X	

OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc.)

	AI 1	Dialog Abstract of EP 176 070, reference AH1 above.	
	AJ 1	<i>Atlas of Protein Sequence and Structure</i> , Vol. 5, p. 96 (1972).	
	AK 1	Barber, <i>et al.</i> , "Opioid Agonists and Antagonists: An Evaluation of Their Peripheral Actions in Inflammation." <i>Med. Res. Rev.</i> 12:525-562 (1992).	
	AL 1	Bianchi, <i>et al.</i> , "Quaternary Narcotic Antagonists' Relative Ability to Prevent Antinociception and Gastrointestinal Transit Inhibition in Morphine-Treated Rats As an Index of Peripheral Selectivity." <i>Life Sci.</i> 30:1875-1883 (1982).	
	AM 1	Bodanszky, <i>Principles of Peptide Synthesis</i> . Berlin:Springer-Verlag, (1984).	
	AN 1	Brown, <i>et al.</i> , "The Use of Quaternary Narcotic Antagonists in Opiate Research." <i>Neuropharmacol.</i> 24:181-191 (1985).	
	AO 1	Budd, "Chapter 4: Analgesic Drugs," in <i>International Encyclopedia of Pharmacology and Therapeutics</i> , N.F. Williams and H. Wilkinson, Eds., Oxford:Pergamon, pp. 51-63 (1983).	
	AP 1	Filler, <i>et al.</i> , <i>Biomedical Aspects of Fluorine Chemistry</i> . Amsterdam:Elsevier Biomedical Press (1982).	

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	AB 2					
	AC 2					
	AD 2					

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						Yes	No
	AE 2						
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OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc.)

AI 2	Filler, "Biologically-Active Fluorochemicals," <i>J. Fluor. Chem.</i> 33:361-375 (1986).
AJ 2	Follenfant, <i>et al.</i> , "Antinociceptive Effects of the Novel Opioid Peptide BW443C Compared with Classical Opiates: Peripheral Versus Central Actions," <i>Br. J. Pharmacol.</i> 93:85-92 (1988).
AK 2	Hardy, <i>et al.</i> , "Peripherally Acting Enkephalin Analogues. 2. Polar Tri- and Tetrapeptides," <i>J. Med. Chem.</i> 32:1108-1118 (1989).
AL 2	Lord, <i>et al.</i> , "Endogenous Opioid Peptides: Multiple Agonists and Receptors," <i>Nature</i> 267:495-499 (1977).
AM 2	Lorenzetti, <i>et al.</i> , "The Analgesic Effect of Quaternary Analogues of Morphine and Nalorphine," <i>Brazilian J. Med. Biol. Res.</i> 15:285-290 (1982).
AN 2	Martin, <i>et al.</i> , "The Effects of Morphine- and Nalorphine-Like Drugs in the Nondependent and Morphine-Dependent Chronic Spinal Dog," <i>J. Pharmacol. Exp. Ther.</i> 197:517-532 (1976).
AO 2	Morgan, <i>et al.</i> , "Structure-Activity Relationships of Methionine-Enkephalin," <i>J. Pharm. Pharmac.</i> 280:660-661 (1976).
AP 2	Morley, "Chemistry of Opioid Peptides," <i>British Med. Bull.</i> 39:5-10 (1983).

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						Yes	No
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	AH 3						

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AI 3	<i>The Peptides</i> , E. Gross and J. Meienhofer, Eds., New York:Academic Press (1979).
AJ 3	Russell, <i>et al.</i> , "Antagonism of Gut, But Not Central Effects of Morphine with Quaternary Narcotic Antagonists," <i>Eur. J. Pharmacol.</i> 78:255-261 (1982).
AK 3	Sakaguchi, <i>et al.</i> , "Receptor Interactions of Synthetic Morphiceptin Analogs Containing Phenylalanine Homologs in Position 4," <i>Bull. Chem. Soc. Jpn.</i> 65:1052-1056 (1992).
AL 3	Schiller, "Chapter 6: Development of Receptor-Specific Opioid Peptide Analogues," <i>Progress in Medicinal Chemistry</i> , G.P. Ellis and G.B. West, Eds., Oxford:Elsevier Science Publishers, pp. 301-340 (1991).
AM 3	Schiller, <i>et al.</i> , "New Types of Opioid Peptide Analogs Showing High μ -Receptor Selectivity and Preference for Either Central or Peripheral Sites," <i>Peptides 1988, Proceedings of the 20th European Peptide Symposium</i> , 613-615 (1988).
AN 3	Schiller, <i>et al.</i> , "Differential Stereochemical Requirements of μ vs δ Opioid Receptors for Ligand Binding and Signal Transduction: Development of a Class of Potent and Highly δ -Selective Peptide Antagonists," <i>Proc. Natl. Acad. Sci. USA</i> 98:11871-11875 (1992).
AO 3	Schiller, <i>et al.</i> , "Unsulfated C-Terminal 7-Peptide of Cholecystokinin: A New Ligand of the Opiate Receptor," <i>Biochem. Biophys. Res. Comm.</i> 85:1332-1338 (1978).
AP 3	Siegmund, <i>et al.</i> , "A Method for Evaluating Both Non-Narcotic and Narcotic Analgesics," <i>Proc. Soc. Exp. Biol. Med.</i> 95:729-731 (1957).

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	AI 4	Silbert, et al., "Analgesic Activity of a Novel Bivalent Opioid Peptide Compared to Morphine Via Different Routes of Administration," <i>Agents and Actions</i> 33:382-387 (1991).						
	AJ 4	Smith, et al., "Peripheral Antinociceptive Effects of N-Methyl Morphine," <i>Life Sci.</i> 31:1205-1208 (1982).						
	AK 4	Smith, et al., "Antinociceptive Models Displaying Peripheral Opioid Activity," <i>Int. J. Tiss. Reac.</i> 7:61-67 (1985).						
	AL 4	Stein, "Peripheral Mechanisms of Opioid Analgesia," <i>Anesth. Analg.</i> 76:182-191 (1993).						
	AM 4	Vavrek, et al., "Minimum Structure Opioids - Dipeptide and Tripeptide Analogs of the Enkephalins," <i>Peptides</i> 2:303-308 (1981).						
	AN 4	Woolfe, et al., "The Evaluation of the Analgesic Action of Pethidine Hydrochloride (Demerol)," <i>J. Pharmacol. Exp Ther.</i> 80:300-307 (1944).						
	AO 4							
	AP 4							

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